

GRASSED WATERWAY

(Acre)

Code 412

Appendix 1 - Planting rates for drill or broadcast seeding and sprigging in Texas, Zone 5

PERENNIAL GRASSES 1/, 4/																			
Name	Variety	Seeding rates are pounds pure live seed (PLS) per acre 3/, 6/	Native (N) or Introduced (I)	Season of growth	Adaptation by Major Land Resource Areas								Seeding Guidance	Adapted Plants by Soil Groups 9/				Comments	
					78C	78D	80A	80B	84B	84C	85	86A	Maximum Seeding Dates7/, 8/	Coarse	Moderately Coarse	Medium	Moderately Fine		Fine
Bermudagrass: Seed	Cheyenne	3.0	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Cold tolerant with extended green growth in early spring and fall.
	common; hulled	2.3	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Best adapted to well and moderately drained soils. Optimum pH is 5.5 to 8.0. Should not be planted in areas flooded for long time periods and is less drouth tolerant than hybrids.
	common; unhulled	3.0	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Same as hulled.
	Giant	3.0	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Adaptation similar to common. It has wider leaves and slightly higher productivity than common
	Guymon	3.0	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Soil adaptation similar to common. Cold tolerance similar to Midland.
Bermudagrass: Sprig	Alicia	12 bu 2/	I	W		X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Less winter hardy than Coastal. Provides quicker cover than coastal and is good for erosion control measures. All sprigged bermudas should have a cover depth of one to three inches.
	Brazos	12 bu 2/	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Production may be higher than coastal on adapted soils. Cold tolerance is similar and digestibility is usually higher than coastal.
	Coastal	12 bu 2/	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Best adapted to moderatley to well drained sandy to loamy soils. It has moderate cold tolerance.
	Midland	12 bu 2/	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Best adapted to moderatley to well drained sandy to loamy soils. It has moderate cold tolerance.
	Tifton 44	12 bu 2/	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Soil adaptation is same as coastal, but the cold tolerance is better.
	Tifton 78	12 bu 2/	I	W			X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Soil adaptation and cold tolerance is similar to coastal, but it establishes and spreads faster than coastal.
	Tifton 85	12 bu 2/	I	W			X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Soil adaptation is similar to coastal but it is less cold tolerant. It has higher production potential and better forage quality than coastal. See appropriate specialist for other bermuda grass varieties that are adapted in Zone 5.
Bermudagrass: tops	Alicia, Tifton 85	5 - 7 Bales	I	W			X		X	X	X	X	12/1 - 6/1	X	X	X	X		Mature tops are usually not available until the end of May. They must be planted into moist soils and packed immediately after planting.

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					78C	78D	80A	80B	84B	84C	85	86A		Coarse	Moderately Coarse	Medium	Moderately Fine	Fine	
Bluestem: yellow	Caucasian	1.2	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Good forage production and easily established.
	King Ranch, T-587	1.2	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Best adapted to moderately to well drained loamy to clayey soils. Optimum pH is 5.5 to 7.5.
	WW-B. Dahl	1.2	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Best adapted to well to moderately well drained sandy loam to clay loam. Not adapted to alkaline soils or wet sites.
	Ganada	1.8	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Drought tolerant. Out yielded Plains in 3 year clipping test in SE Oklahoma.
	Ironmaster	1.8	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Same adaptability range as WW-Spar, but should only be used on those soils that are iron deficient.
	Plains, WW-Spar	1.8	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Best adapted to loamy soils. Optimum pH is 5.5 to 7.5. See appropriate specialist for other bluestem varieties that are adapted in Zone 5.
Bristlegrass: plains 5/		3.0	N	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Found on sandy to medium textured soils. Palatable, short lived bunch grass.
Buffalograss: burs	Texoka	8.0	N	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Vigorous grower. Out produces other buffalo grass varieties.
Buffalograss: dehulled		3.0	N	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Cover depth is 1/4 to 1/2 inches.
Grama: blue	Hachita, Lovington	1.5	N	W	X	X	X	X					12/1 - 6/1		X	X	X	X	It thrives in medium to fine textured soils. Highly palatable all year long and cures well for use as hay.
Grama: sideoats	El Reno, Haskell, Niner, Vaughn	4.5	N	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	medium or coarse soil. May become dominant species on shallow calcareous sites.
Green sprangletop		1.7	N	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X		Is highly palatable. Establishes quickly and provides cover and protection to other species that are slower in establishment.
Kleingrass	Selection-75	1.5	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Adapted for medium to clay textured soils. Withstands extended periods of hot, dry weather and is an excellent food source for game birds.
Kleingrass	Verde	1.7	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Same as above, but has a larger seed.

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					78C	78D	80A	80B	84B	84C	85	86A	Maximum Seeding Dates 7/, 8/	Coarse	Moderately Coarse	Medium	Moderately Fine	Fine						
Lovegrass: weeping	common, Ermelo	1.5	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X			Best adapted to sandy soils. Provides excellent protection for both wind and water erosion. Provides protection for small game and is good food source for small birds.					
Lovegrass: wilman	common, Palar	1.5	I	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Has outstanding seedling vigor and good seed production. Due to lack of cold tolerance, only plant south of the Knox to Fannin Conty line.					
Lovegrass: sand, sandhill	common, Mason	1.5	N	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X			Occurs on sandy soils. Has good drought resistance, but lacks persistence under heavy grazing.					
Wheatgrass: tall	Jose, Largo	12.0	I	C	X	X	X	X	X	X	X	X	8/15 - 11/1	X	X	X	X		In areas that receive less than 28" of annual precipitation, use on subirrigated sites, or sites that receives extra runoff. Cover depth is 1/4 to 1/2 inches.					
Wheatgrass: pubescent	Luna	11.0	I	C	X	X	X	X					8/15 - 11/1		X	X	X		Has excellent seedling vigor, fast establishment and is a high forage producer. Cover depth is 1/4 to 1/2 inches.					
Wheatgrass: western	Arriba, Barton, common	7.0	N	C	X	X	X	X					8/15 - 11/1		X	X	X	X	Species is best adapted to well drained bottomland, but is commonly found on open plains and hillsides. Preferred feed for some large game species. Cover depth is 1/4 to 1/2 inches.					

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PERENNIAL FORBS, LEGUMES, SHRUBS1/, 4/																				
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Alfalfa		20.0	I	C	X	X	X	X	X	X	X	X	8/15 - 11/1	X	X	X	X	X	Pounds of commercial seed. Moderately deep to deep, loamy, well drained soils with a pH of 6.5 or greater.	
Prairieclover: purple		3.0	N	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Grows on soils ranging from clay loams to sands. Has moderate drought tolerance.	
Prairieclover: white		2.0	N	W	X	X	X	X	X	X	X	X	12/1 - 6/1		X	X	X	X	Grows well on high pH soils. May cause bloat.	
Western ragweed		7.5	N	W	X	X	X	X	X	X	X	X	12/1 - 6/1	X	X	X	X	X	Widespread along roadside and disturbed sites. Valuable food source for small game birds.	

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					78C	78D	80A	80B	84B	84C	85	86A		Coarse	Moderately Coarse	Medium	Moderately Fine	Fine			
Barley		40.0	I	C	X	X	X	X	X	X	X	X	8/15 - 11/1	X	X	X	X	X	Cover depth is 1/2 to 1.0 inches. Is sensitive to poorly drained soils. Moderate drought tolerance.		
Oats		40.0	I	C	X	X	X	X	X	X	X	X	8/15 - 11/1	X	X	X	X	X	Cover depth is 1/2 to 1.0 inches. Provides early fall grazing but is not drought tolerant.		
Rye		40.0	I	C	X	X	X	X	X	X	X	X	8/15 - 11/1	X	X	X	X	X	Cover depth is 1/2 to 1.0 inches. Provides early fall grazing and prefers sandy to loamy soils.		
Ryegrass: annual		12.0	I	C	X	X	X	X	X	X	X	X	8/15 - 11/1	X	X	X	X	X	It is adapted to a wide range of soils and is only annual grass that will tolerate poor drainage.		
Triticale		40.0	I	C	X	X	X	X	X	X	X	X	8/15 - 11/1	X	X	X	X	X	Cover depth is 1/2 to 1.0 inches. Cross between wheat and rye. Optimum pH range is 5.0 to 7.5.		
Wheat		40.0	I	C	X	X	X	X	X	X	X	X	8/15 - 11/1	X	X	X	X	X	Cover depth is 1/2 to 1.0 inches. Good cold and drought tolerance. Optimum pH range of 5.5 to 8.0.		

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FOOTNOTES
1/ Species are listed by common name and where applicable by released cultivar or variety. Planting rates are shown either as by PLS or commercial rates.
2/ Conversion factors: 3.5 bushels of tops = 1 bale; 7 bushels of sprigs = 1 bale; 1.25 cubic feet = 1 bushel; 15 pounds = 1 bushel.
3/ PLS = Pure Live Seed. To compute PLS from seed analysis information: Percent PLS = (% germination + % hard [dormant] seed) X % purity. Seeding rate in PLS pounds divided by % PLS will give you the bulk seeding rate needed to get the right amount of pure live seed.
4/ Local harvest may be used when seeding species of unknown or common variety, or natural stands. Local harvested seed should have its geographic origin within 200 miles north, 300 miles south, 100 miles east and 200 miles west of the site where it will be planted. It is also desirable that locally harvested seed be used on soils of the same texture as soils where seed was harvested.
5/ The TZ (tetrazolium salt) test can be used for the germination factor in figuring PLS if the dealer furnishes the seed tag or other proof the test was run by a reputable seed lab.
6/ Drill planting is defined as rows spaced less than 20 inches apart. Row planting rates will be 1/3 of drill rates.
7/ The optimum planting date for warm season perennial grasses, legumes and forbs is 1/15 - 4/15 and 9/1 - 10/15 for cool season perennial grasses, legumes and forbs. The optimum planting date for warm season annuals is 4/1 - 6/1 and 9/1 - 10/15 for cool season annuals.
8/ The optimum planting depth for all species is 1/8 to 1/4 inch unless it is otherwise noted for the individual specie.
9/ Soil groups are based on the following textures: Coarse - Coarse sand, Sand, Fine sand, Very fine sand, Loamy coarse sand, Loamy sand, Loamy fine sand and Loamy very fine sand; Moderately Coarse - Sandy loam, Coarse sandy loam and fine sandy loam; Medium - Very fine sandy loam, Loam, Silt loam and silt; Moderately Fine - Clay loam, Sandy clay loam and Silty clay loam; Fine - Sandy clay, silty clay and clay. This guidance is very broad . For site specific guidance on all grass plantings, refer to the appropriate ecological site description, pastureland suitability group, other technical guidance if needed, and the appropriate Zone or Field specialist.